

1 What is claimed is:

2

3 1. A method of routing a wireless signal between two  
4 points, said method comprising the steps of:

5 transmitting a wireless signal from an originating  
6 transmitter;

7 receiving said wireless signal at a first set of  
8 repeating transceivers;

9 in each said repeating transceiver, delaying said  
10 wireless signal by at least one predetermined delay and re-  
11 transmitting said wireless signal; and

12 receiving said re-transmitted wireless signals at a  
13 destination receiver.

14

15 2. The method of claim 1, wherein the signal received at  
16 each said repeating transceiver is mixed to an intermediate  
17 frequency before said re-transmitting.

18

19 3. The method of claim 1, wherein the signal received at  
20 each said repeating transceiver is digitized before said  
21 re-transmitting.

22

23 4. The method of claim 1, wherein the signal received at  
24 each said repeating transceiver is processed through an FIR  
25 filter before said re-transmitting.

26

27 5. The method of claim 1, wherein the signal received at  
28 each said repeating transceiver is converted to an analog  
29 signal before said re-transmitting.

30

1 6. The method of claim 1, wherein the signal received at  
2 each said repeating transceiver is up-shifted in frequency  
3 before said re-transmitting.

4

5 7. The method of claim 1, wherein said predetermined  
6 delay is programmable.

7

8 8. An apparatus for dynamically routing wireless signals,  
9 said apparatus comprising:

10 an plurality of spatially disparate transceivers,  
11 wherein each said transceiver comprises:

12 a receiver for receiving a wireless signal;  
13 an A/D converter for digitizing said wireless  
14 signal;

15 an FIR filter fed by said A/D converter;

16 a D/A converter fed by said FIR filter; and

17 a transmitter fed by said D/A converter;

18 wherein said transceiver re-transmits said wireless  
19 signal after a predetermined delay.

20

21 9. The apparatus of claim 8, wherein said transceiver  
22 further comprises a frequency down-shifting mixer and a  
23 frequency up-shifting mixer.

24

25 10. The apparatus of claim 9, wherein said frequency down-  
26 shifting mixer is connected between the output of said  
27 receiver and the input of said A/D converter.

28

29 11. The apparatus of claim 9, wherein said frequency up-  
30 shifting mixer is connected between the output of said D/A  
31 converter and the input of said transmitter.

32

1 12. The apparatus of claim 9, wherein said transmitter  
2 comprises said frequency up-shifting mixer.

3

4 13. The apparatus of claim 9, wherein said transceiver  
5 further comprises a local oscillator coupled to said down-  
6 shifting mixer for down-shifting the frequency of said  
7 wireless signal.

8

9 14. The apparatus of claim 8, wherein said transceiver  
10 further comprises a low pass filter connected between the  
11 output of said receiver and the input of said A/D  
12 converter.

13

14 15. A transceiver for use in a system for dynamically  
15 routing wireless signals, said transceiver comprising:

16 means for receiving a wireless signal;

17 means for modulating said wireless signal, said  
18 modulating means coupled to said receiving means;

19 means for digitizing said wireless signal, said  
20 digitizing means coupled to said modulating means;

21 means for delaying transmission of said wireless  
22 signal, said delaying means coupled to said digitizing  
23 means;

24 means for amplifying said wireless signal, said  
25 amplifying means coupled to said delaying means; and

26 means for transmitting said wireless signal, said  
27 transmitting means coupled to said amplifying means.

28

29

30

31

1 16. A method of routing a wireless signal between two  
2 points, said method comprising the steps of:  
3 transmitting a wireless signal as a plurality of  
4 wireless signals;  
5 receiving said plurality of wireless signals at a  
6 repeating transceiver as a received plurality of wireless  
7 signals;  
8 in said repeating transceiver, delaying each of said  
9 plurality of wireless signals by a separately predetermined  
10 delay to produce a set of delayed wireless signals;  
11 combining said delayed wireless signals into a  
12 reconstituted wireless signal; and  
13 re-transmitting said reconstituted wireless signal.  
14

15 17. The method of claim 16, wherein each of said received  
16 plurality of wireless signals is mixed to an intermediate  
17 frequency before being delayed by said separately  
18 predetermined delay.  
19

20 18. The method of claim 16, wherein each wireless signal  
21 received at each said repeating transceiver is digitized  
22 before said re-transmitting.  
23

24 19. The method of claim 16, wherein each wireless signal  
25 received at each said repeating transceiver is processed  
26 through an FIR filter before said re-transmitting.  
27

28 20. The method of claim 16, wherein each wireless signal  
29 received at each said repeating transceiver is converted to  
30 an analog signal before said re-transmitting.  
31

1 21. The method of claim 16, wherein said reconstituted  
2 wireless signal at each said repeating transceiver is up-  
3 shifted in frequency before said re-transmitting.

4

5 22. The method of claim 16, wherein each of said  
6 separately predetermined delays is programmable.

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32